

Epi Monthly Report

Office of Epidemiology and Disease Control



Miami-Dade County
HEALTH DEPARTMENT

“Operation Vaccinate Florida”

Mary Jo Trepka, MD, MSPH

“Operation Vaccinate Florida” is Florida’s plan to implement smallpox vaccination. It consists of three stages:

Stage I will involve the vaccination of about 35,000 hospital response team volunteers and county health department volunteers statewide. In Miami-Dade County we will be vaccinating about 4,600 people. The first goal of stage I is for each acute-care hospital to have a team of health care providers who will be able to treat and manage the first few smallpox patients who come to their hospital for 7-10 days. If there were a case of smallpox, additional health care providers would be vaccinated, would have a vaccine “take” after 7-10 days, and would then be able to relieve the initial team. The second and third goals are for the Miami-Dade County Health Department to have a smallpox response team that will perform outbreak control in the event of a smallpox case and to have a smallpox vaccine team that will administer the smallpox vaccine during stage I as well as in the event of a smallpox outbreak. Stage I will begin on January 24th or shortly thereafter and will be completed by late March.

Stage II will start after stage I and will involve the vaccination of first re-

sponders such as law enforcement officers, firemen, emergency medical crews as well as other health care professionals. Approximately 300,000-400,000 doses will be provided statewide during stage II.

Stage III will involve the voluntary vaccination of the general public, but the final decision to implement stage III has not yet been made.

“Operation Vaccinate Florida” will require much time, commitment, and resources from the public and private health care provider community. However, it will help our community to be much better prepared for a smallpox outbreak. We thank you in advance for your support. Please call me with any questions (305) 324-2413. Happy New Year!

Administration of Smallpox Vaccine



Inside this issue:

“Operation Vaccinate Florida”	1
Gastrointestinal Illness Outbreak at the University of Miami	2
Selected Reportable Diseases/Conditions in Miami-Dade County, November 2002	7



Mary Jo Trepka, MD, MSPH
Director, Office of Epidemiology and Disease Control

1350 NW 14 Street BLDG. 7
Miami, Florida 33125

Tel: 305-324-2413
Fax: 305-325-3562
Email:
Maryjo_Trepka@doh.state.fl.us

Website: www.dadehealth.org

Gastrointestinal Illness Outbreak at the University of Miami

Edhelene Rico, Juan A. Suarez, Alicia Camps Sotirescu, Fabio Santana, Fermin Leguen and Mary Jo Trepka

Background

On November 15, 2002, the office of Epidemiology and Disease Control (OEDC) of the Miami-Dade County Health Department (MDCHD) received a call from the University of Miami (UM) Student Health Service, reporting an increase in the number of student visits with gastrointestinal (GI) symptoms. They indicated that on November 14, 2002, beginning at 10 a.m., the clinic experienced an unusual increase in the number of patients with GI symptoms. By the end of the day, the clinic had provided medical care to 14 students experiencing those symptoms. The clinic provided symptomatic students with a questionnaire and asked them to fill it out while sitting at the clinic's waiting room. Several students mentioned on the questionnaire having a meal at an Italian Theme Dinner served on November 13, 2002, at Dining Hall A/B. Once this report was received, the OEDC and the MDCHD Environmental Health Division initiated an investigation in collaboration with the UM Student Health Center.

The University of Miami Coral Gables campus has residential dorms A, B, C, D, and E. The UM Student Health Service provides primary care, specialty care, and pharmacy services to those who pay the university fee. The Student Health Service usually has an average of 100 visits per day including three to four of these visits due to GI symptoms.

Methods

Epidemiological Investigation/Data Collection

On November 15, 2002, OEDC investigators and an environmental health inspector, conducted a site visit to the Coral Gables Campus and met with University representatives. They toured the dormitories and interviewed five students waiting to be seen at the clinic using the questionnaire provided by the Student Health Service.

On November 18-19, 2002, OEDC investigators along with a team from MDCHD Environmental Health made another visit to the campus. Ninety-three students were interviewed. Most of the interviewed cases either came from a list provided by the Student Health Service or the Dorm A residential assistant. Controls were a convenience sample of students interviewed at the dorms and the food court.

OEDC also interviewed the management of the dining halls regarding the operations of the food facilities on campus.

Environmental Investigation

On November 15, 2002, the MDCHD environmental health inspector conducted an inspection of the Dining Hall A/B. A report that included the repairs and work orders completed for the dining halls and dorms from October to November 14 was given to OEDC for review. The names of two food handlers from Dining Hall A/B, who were ill during that week were also provided to OEDC.

On November 19, 2002, MDCHD conducted an environmental inspection of Dining Hall C/D. OEDC interviewed the dining hall managers who stated that the menus of both dining halls were the same and that the kitchen personnel do not save food for other dining sessions as proper planning reduces the left over food. The personnel of one facility rarely, if ever, work at the other one, and that the preparation of foods from the menus follows the same recipes. Suppliers and distributors of food items and ingredients are the same for both facilities. A tour of the Food Court area and interviews with some personnel were conducted. Members of the MDCHD Environmental Health Water Section took water samples from the dining halls, the dorms, and other campus locations.



Laboratory Investigation

The UM Student Health Service submitted one stool sample of a symptomatic patient to a local hospital laboratory for testing, and stool samples from four other patients were sent to the State Laboratory in Tampa for Norovirus testing. The samples were tested for bacteria and parasites at the Miami Regional Laboratory.

Case Control Study

Case definitions

A confirmed case was defined as a person having eaten at least one meal at the University of Miami Coral Gables campus after November 11, 2002 and with an onset of *vomiting* or *at least two* of the following symptoms: diarrhea, fever, or abdominal cramps between November 13, 2002 to November 17, 2002 and with a positive laboratory result for a common pathogen that is clinically compatible.

A probable case was defined as confirmed case but lacking positive laboratory results.

A suspected case was defined as a probable case but lacking onset date or had an onset date prior to November 13.

Controls

Two controls were selected for each case by interviewing a convenience sample of students at different locations on campus. Controls were selected based on two requirements: students who ate on campus during the week of November 11 and did not have any GI symptoms during that week. The OEDC created an additional questionnaire for on-campus and phone interviews. If a control reported not eating any meals on campus or had any GI symptoms during that week, she/he was excluded from the analysis. A total of 50 controls and 25 cases were selected from available interviews for the analysis.

Data analysis

Statistical analysis was performed using EpiInfo 2000 and SAS. A p-value of < 0.05 was considered statistically significant.

Results

Demographics and statistics of the outbreak

Of the 90 reported persons with symptoms, 37 (41%) met the probable definition, and 7 (8%) met the suspected definition. There were no confirmed cases since no pathogens were identified from stool specimens. Five of the probable cases and three of the suspected cases received medical care at a local hospital.

The epidemic curve of reported persons with GI symptoms at the Student Health Service in November shows a peak on the 14th with 29 cases, 26 (90%) probable and 3 (10%) suspected (Figure 1). Over the period covered by the case definition (November 13-17), 42 cases occurred among those who ate at least one meal at UM. The figure shows one large peak suggesting a common source outbreak.

Environmental Results

A rating of “Satisfactory” was given to the Dining Hall A/B, and only minor cleaning and repair items under the comments and instructions section were mentioned as deficiencies. A rating of “Satisfactory” was given also to the Dining Hall C/D along with the same comments mentioned for Dining Hall A/B. The work order and repairs report had no items that appeared likely to be associated with this outbreak. The tour of the dorm A did not reveal any environmental condition that could have been associated with the current episodes of gastroenteritis on campus.

Upon interview of the ill food handlers, it was determined that their onset dates were November 13 and 14 after the lunch and dinner on November 13.

Laboratory Results

The four samples from the Miami Regional Laboratory and

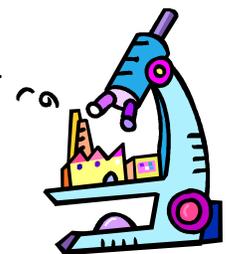
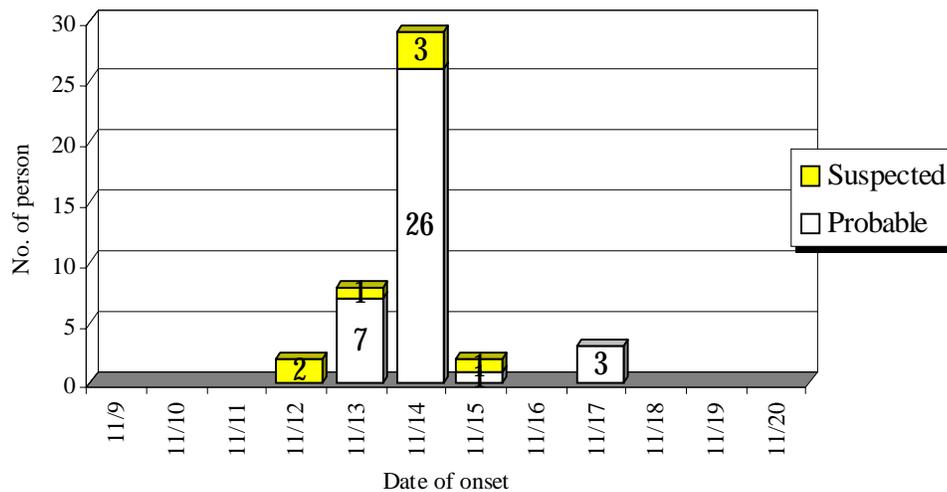


Figure 1. Persons associated with the gastroenteritis outbreak by known date of onset, University of Miami, November 2002



one other sample from the hospital laboratory tested negative for bacteria, parasites, and Norovirus.

Water samples taken on the dining halls, dorms and other campus locations were negative for coliform organisms.

Results of the Case-Control Study

The analysis included 75 students; 25 cases and 50 controls. Of the 75, 43 (57.3%) were females, and 32 (42.7%) were males. Demographic characteristics of the students are shown in Table 1. Twenty-five (100%) cases and 43 (86%) controls had a pre-paid meal plan.

Among the probable cases who had lunch on the 13th, 2 (8%) ate at the food court, 1 (4%) at Dining Hall C/D, and 15 (60%) at Dining Hall A/B. Among the controls, 5 (10%) ate at the food court, 11 (22%) at Dining Hall C/D, and 12 (24%) at Dining Hall A/B. Among the probable cases who had dinner on the 13th, 2 (8%) ate at the food court, 3 (12%) at Dining Hall C/D, 14 (56%) at Dining Hall A/B. Among the controls, 1 (2%) ate at the food court, 16 (32%) at Dining Hall C/D, and 21 (42%) at Dining Hall A/B.

Table 2 shows the frequency of symptoms of the probable cases. More than 60% of the cases complained of nausea, vomiting, cramps, headache,

fever, diarrhea, and/or chills. Symptoms lasted between one and three days.

There was no association between having eaten at the Italian Theme dinner and becoming ill ($p=0.15$). Eating lunch at Dining Hall A/B was associated with illness (Odds Ratio 4.7, 95% Confidence Interval 1.7 to 13.3). We stratified the analysis by dorm of residence. Among only residents of dorm A/B, eating lunch at Dining Hall A/B was still significantly associated with illness (Odds Ratio 6.3, 95% Confidence Interval 1.6 to 24.5). Analyses for the other food facilities on campus did not show a statistically significant association between eating at those facilities and developing GI symptoms.

Discussion

Since several students mentioned eating at the Italian Theme dinner served at the Dining Hall A/B on the 13th, we included this event in our analysis and found no significant association between having eaten that dinner and becoming ill. However, our results showed a significant association between having lunch at the Dining Hall A/B on the 13th and becoming ill, and this did not change after controlling for dorm residence. Lunch on the 13th



Figure 2. Probable cases from the case-control study associated with the gastroenteritis outbreak by time of onset, University of Miami, November 2002

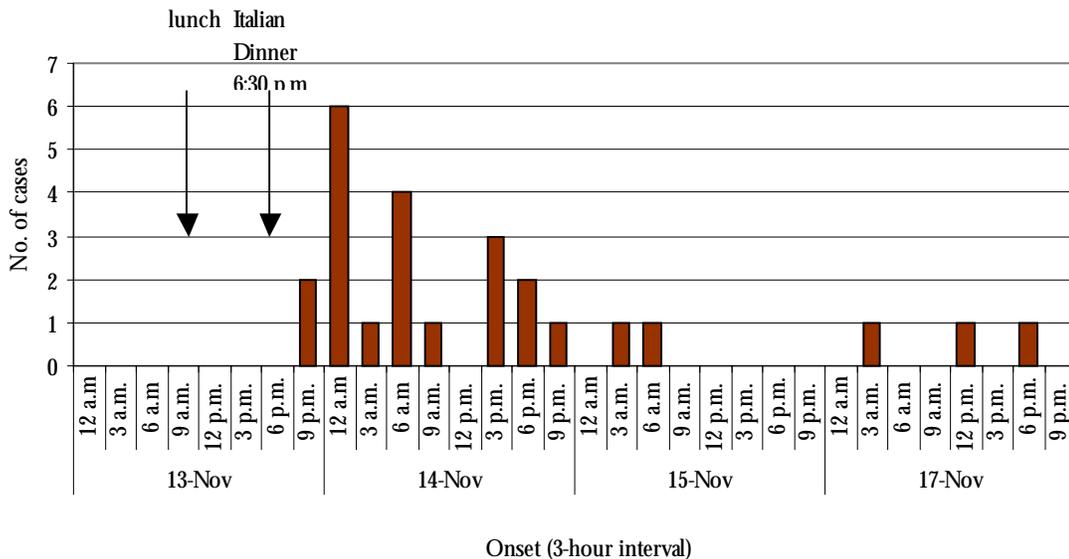


Table 1. Demographic characteristics of the students included in the cases-control study, University of Miami, November 2002

Characteristics	Cases (N=25)		Control (N=50)	
	n	%	n	%
Sex				
Female	16	(64%)	27	(54%)
Male	9	(36%)	23	(46%)
Age				
18-20	18	(72%)	38	(76%)
21-23	6	(24%)	10	(20%)
23-25	-		-	
26-28	-		-	
29-31	-		-	
32-34	1	(4%)	1	(2%)
Unknown	-		1	(2%)
Grade				
Freshmen	3	(12%)	12	(24%)
Sophomore	10	(40%)	15	(30%)
Junior	7	(28%)	13	(26%)
Senior	4	(16%)	7	(14%)
Unknown	1	(4%)	3	(6%)
Dorm				
A	8	(32%)	7	(14%)
B	12	(48%)	15	(30%)
C	1	(4%)	5	(10%)
D	1	(4%)	4	(8%)
E	2	(8%)	13	(26%)
Outside	1	(4%)	5	(10%)
Unknown	-		1	(2%)

appeared to be a risk factor, and the reasons remain unknown. Due to the differences in the two questionnaires' design, our analysis in finding an association between becoming ill and a specific food item for lunch was limited. This was due to either many students not remembering what they consumed for lunch on the 13th or their responses were not specific.

Laboratory testing yielded no bacteria, parasite, or Norovirus from the stool samples provided. Nevertheless, there is still a possibility that one of them could have been the causal agent. Enterotoxin should also be considered as another likely cause of this outbreak. Unfortunately, the available samples were not tested for enterotoxins. Food samples were not taken, as there was no leftover food at the time of inspections. The water samples were

Table 2. Symptoms reported by probable cases (N=25) included in the case-control study, University of Miami, November 2002

Symptoms	N	%
Nausea	24	96
Vomiting	23	92
Cramps	21	84
Headache	20	80
Fever	19	76
Diarrhea	15	60
Chills	15	60
Muscle pain	10	40
Joint pain	7	28



negative indicating that water was not likely the mode of transmission.

No food handlers were identified as being ill *prior* to the outbreak making ill food handlers a less likely cause of illness. Thus, a food item served at lunch on the 13th was the most likely source of the outbreak .

This study had several limitations. The first limitation was students not recalling what they had eaten for lunch or dinner on specific days. A second limitation was interview bias. This bias was due to investigators interviewing cases at length; whereas controls were allowed to self-administer the same questionnaire. A third limitation was that the OEDC questionnaire included the menu only for the Italian Theme Dinner, which helped trigger the memory of the interviewee filling the questionnaires. Food history questions for other meals had a fill-in-the-blank space making recall of those meals more difficult.

Once OEDC was notified of the increase of GI symptoms seen at UM Student Health Service, several educational and environmental control measures were recommended to the Student Health Service and to the administration of dorms A/B. The UM authorities, in order to reduce the potential spread of this illness, implemented these control measures. Some of these measures included cleaning hand contact surfaces at common areas in dorms A/B where most of the ill students lived and ate; temporarily placing the dorms' water fountains out of service until water samples results were available; opening the Student Health Service on Saturday, November 16 (the center does not open on weekends regularly); and posting information about the outbreak with daily updates along with clinic hours and hand washing and hygiene measures on the UM Student Health website.

After November 17th, the number of GI-related symptoms at the UM Student Health Service returned to its expected level of incidence. This was a common source outbreak with little secondary transmission indicating that control measures were effective or the agent was an enterotoxin. The OEDC continues to closely monitor reports of GI related symptoms and enteric diseases from the university community.



Dear Colleagues:

Happy Holidays! We would like to thank you for your assistance in the surveillance and control of communicable and other diseases in our community. We specially appreciate your great collaborative efforts in the development of the bioterrorism surveillance system.

Enjoy the spirit of the season, Have a wonderful new year!

From all staff of
Miami-Dade County Health Department
Office of Epidemiology and Disease Control



Happy New Year



Note: Miami-Dade Health Department **Vital and Morbidity Statistics 1999-2001** Annual Report (internet version) is available (except Maternal and Child Health Section) on the Miami-Dade County Health Department Web page: http://www.dadehealth.org/discontrol/dc_annualreport.shtml. The report will be completed in the next month



To report diseases or for information:

- Office of Epidemiology and Disease Control
Childhood Lead Poisoning Prevention Program (305) 623-3565
Hepatitis (305) 324-2490
Other diseases and outbreaks (305) 324-2413
HIV/AIDS Program (305) 324-2459
STD Program (305) 325-3242
Tuberculosis Program (305) 324-2470
Special Immunization Program (305) 376-1976
Nights, weekends, and holidays (305) 377-6751



**Volume 3, Issue 12
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Page-6**

Monthly Report

Selected Reportable Diseases/Conditions in Miami-Dade County, November 2002

Diseases/Conditions	2002	2002	2001	2000	1999	1998
	this Month	Year to Date	Year to Date	Year to Date	Year to Date	Year to Date
AIDS *Provisional	74	1051	1163	1275	1265	1470
Campylobacteriosis	15	105	111	141	132	99
Chancroid	0	0	0	0	0	2
<i>Chlamydia trachomatis</i>	107	3923	3492	2869	3932	3336
Ciguatera Poisoning	0	6	6	2	0	0
Cryptosporidiosis	3	13	13	29	21	13
Cyclosporiasis	0	1	0	0	1	1
Diphtheria	0	0	0	0	0	0
<i>E. coli</i> , O157:H7	0	0	2	3	5	9
<i>E. coli</i> , Other	0	2	1	1	0	2
Encephalitis	0	0	0	0	0	0
Giardiasis, Acute	18	206	248	223	127	94
Gonorrhea	72	1712	1782	1884	2719	2461
Granuloma Inguinale	0	0	0	0	0	0
<i>Haemophilus influenzae</i> B (invasive)	1	1	1	2	1	1
Hepatitis A	0	97	172	86	93	117
Hepatitis B	0	38	65	53	26	72
HIV *Provisional	133	1671	1378	1368	1397	1393
Lead Poisoning	27	286	257	Not available	Not available	Not available
Legionnaire's Disease	0	2	3	0	0	1
Leptospirosis	0	0	0	0	1	0
Lyme disease	0	2	6	7	2	2
Lymphogranuloma Venereum	0	0	0	0		
Malaria	1	13	18	21	16	28
Measles	0	0	0	0	0	0
Meningitis (except aseptic)	4	17	18	21	30	16
Meningococcal Disease	0	11	15	25	25	13
Mumps	0	0	0	2	2	0
Pertussis	0	3	2	7	11	14
Polio	0	0	0	0	0	0
Rabies, Animal	0	0	0	0	0	1
Rubella	0	0	0	1	0	0
Salmonellosis	41	318	301	269	308	242
Shigellosis	14	232	150	214	186	229
<i>Streptococcus pneumoniae</i> , Drug Resistant	10	100	162	182	166	78
Syphilis, Infectious	20	200	176	129	68	27
Syphilis, Other	87	870	800	687	640	654
Tetanus	0	0	1	1	0	0
Toxoplasmosis	1	24	18	0	1	0
Tuberculosis *Provisional	15	206	209	230	239	265
Typhoid Fever	0	3	2	2	15	3
<i>Vibrio, cholera</i>	0	1	0	0	0	0
<i>Vibrio</i> , Other	0	0	0	0	0	0

* Data on AIDS are provisional at the county level and are subject to edit checks by state and federal agencies.

** Data on tuberculosis are provisional at the county level.

